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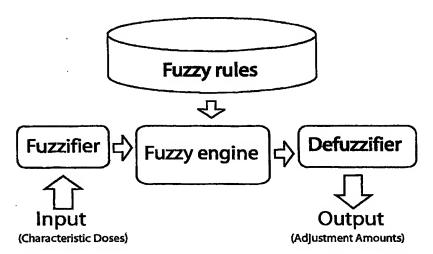
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(54) Title: FUZZY LOGIC GUIDED INVERSE TREATMENT PLANNING

(57) Abstract: A fuzzy inference system for use in modulating radiation treatment including a fuzzifier for inputting imaging data, an inference device operatively connected to the fuzzifier, the inference device being used for analyzing the imaging data and determining radiation treatment target from non-treatment target, and a defuzzifier for modulating radiation treatment pursuant to the analysis from the inference device. A method of modulating radiation treatment by inputting patient data into the fuzzy inference system disclosed above and modulating radiation treatment pursuant to data obtained from the fuzzy inference system. An apparatus for producing modulating radiation therapy in patients including an imaging device for creating and storing image data of relevant tissue and organ parts and a fuzzy inference system operatively connected to the imaging device for modulating radiation treatment. A fuzzy inference system for use in modulating radiation treatment including a fuzzifier for inputting imaging data, an inference device operatively connected to the fuzzifier, the inference device being used for analyzing the imaging data and determining the strength of radiation treatment, and a defuzzifier for modulating radiation treatment pursuant to the analysis from the inference device.